

FY 2000 SECRETARY OF DEFENSE ENVIRONMENTAL SECURITY AWARD
NATURAL RESOURCES CONSERVATION: LARGE INSTALLATION

NAVAL WEAPONS STATION CHARLESTON, GOOSE CREEK, SC

1. Clifford Townsend (Natural Resources Manager)

WPNSTA CHASN (Code 092CT)
2316 Red Bank Road STE 100
Goose Creek, SC 29445-8601
843/764-7951 794-7151 DSN

2. Cindy Gaither (Financial PoC)

WPNSTA CHASN
2316 Red Bank Road STE 100
843/764-7626 794-7626 DSN
764-7087 FAX

PROGRAM SUMMARY

Naval Weapons Station Charleston's Natural Resources Program uses a variety of innovative and cost saving methods to accomplish its mission. The program's primary focus is on resource management and protection, but environmental education and outdoor recreation are also emphasized. Extensive use is made of volunteer labor provided by an award-winning Natural Resources Volunteer Program, the National Civilian Community Corps, Navy Seabees, Navy Self-help Program and tenant commands. Outstanding projects within the three-year award period include: implementation of GIS technology, additions to outdoor recreational facilities, expansion of wildlife management efforts, stepped-up community relations and implementation of a new Integrated Natural Resources Management Plan. Awards received included: the CNO's Community Service Award for Environmental Stewardship; Tree City USA designation; two Certificates of Environmental Achievement by National Awards Council for Environmental Sustainability, and a "Special Recognition Award" from the S.C. Department of Natural Resources.

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**NAVAL WEAPONS STATION
CHARLESTON**

INTRODUCTION

Naval Weapons Station Charleston's (WPNSTA CHASN) mission is to maintain and operate facilities and provide, as appropriate, services and material to support the operating forces of the Navy, and other organizations designated by the Chief of Naval Operations (CNO), and to perform such functions and tasks as directed by higher authority. Additional tasks include supporting the Maritime Pre-positioning Force Program and providing homeport for ships as directed by the CNO and Military Sealift Commander.

The Station and its tenant commands employ approximately 6,001 military and 2,450 civilian personnel.



Located on the Cooper River, 15 miles north of Charleston, S.C., WPNSTA CHASN controls 16,307 acres. Of this 2,684 acres are improved, 329 semi-improved, 12,708 unimproved and 526 classified as other. Unimproved area includes 8,903 acres managed forest, 244 acres freshwater ponds, 564 acres marsh and 18 miles shoreline.

Fifteen archaeological sites have been identified as potentially eligible for the National Register of Historic Places. Included within these 15 sites are two locations recommended for nomination as proposed national historic districts.

BACKGROUND

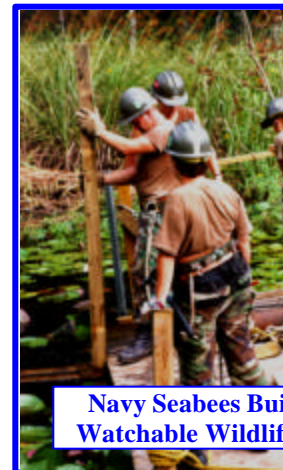
WPNSTA CHASN's Integrated Natural Resources Management Plan (INRMP) was implemented in 1998. A cooperative agreement was signed with the U.S. Fish and Wildlife Service (USFWS), and South Carolina Department of Natural Resources (SCDNR) in 1980. A second agreement exists with the National Park Service (NPS) and South Carolina Department of Parks, Recreation and Tourism (SCDPRT).

The Natural Resources (NR) Branch is part of the Environmental and NR Division of Base Civil Engineering Department. Branch staff consists of a NR Manager and a NR Specialist. Two Station committees work with the program: C.O.'s Environmental Steering Committee and the Environmental Quality Subcommittee.

PROGRAM SUMMARY

WPNSTA CHASN's NR program uses a variety of innovative and cost-saving methods to accomplish its mission. The program's primary focus is on resource management and protection, but environmental education and outdoor recreation are also emphasized. Extensive use is made of volunteer and supplementary labor while maximizing alternative funding sources. Outstanding projects within the three-year award period include:

Implementation of GIS technology, additions to outdoor recreation facilities, expansion of wildlife management efforts, stepped-up community relations, maintenance of the Watchable Wildlife Area, management of the North American Waterfowl project, and implementation of a new INRMP.



**Navy Seabees Building
Watchable Wildlife Area**

AWARDS AND RECOGNITION

- (1) 1999 Runner-up, Secretary of the Navy, NR Conservation Award for Large Installations;*
- (2) 1998 CNO's Community Service Award in the Environmental Stewardship Category;*
- (3) 1998 and 1999 Certificate Achievement by National Awards Council for Environmental Sustainability;*
- (4) 1998, 1999, and 2000 Designated an Official Tree City USA by National Arbor Day Foundation;*
- (5) 1998 "Special Recognition Award" from S.C. Department of Natural Resources; and*
- (6) 1999 NR Specialist Named Hunter Educator of the Year by S.C. Department of Natural Resources.*

ACCOMPLISHMENTS

Overall Conservation Management -

Multiple-use management is emphasized by structuring work to provide benefits in several program areas whenever possible. Examples include firebreaks re-worked for alternative use as horseback riding/hiking/mountain biking trails, wildlife food plots planted in utility line right-of-ways and prescribed fire regimes manipulated to enhance wildlife habitat while reducing fire hazard around explosive ordnance areas.

GIS technology was implemented in 1998. Natural Resource data is now available in digital format increasing efficiency and effectiveness. Production of maps, data analysis and response to data calls are now exponentially faster, more detailed and in many cases more accurate. In addition, planning for construction, controlled burning, tree planting, wetlands protection and other activities has been greatly enhanced.

A new budgeting system employing the "Environmental Program Requirements Module" facilitates long-range planning and early project submission to the Regional Environmental Coordinator.

During the 1998-00 period the NR program drew on a number of alternative sources for funding and materials including Navy Agricultural Outlease Account, DoD Forestry Reserve Account, WPNSTA Recycling, and Defense Reutilization and Marketing Service. The Resource Management Institute, a non-profit agency, supplied 60 tons of seed for

wildlife food plots for shipping costs only. Alternative sources of labor and equipment included National Civilian Community Corps (NCCC), Navy Seabees, Station Self-help Unit, Navy Nuclear Power Training Command's (NNPTC) Transient Personnel Activity and a large corps of NR program volunteers. In addition, SCDNR biologists provided expertise on wildlife and fisheries management and nuisance alligator control.

Ecosystem Management - Recognizing the importance of ecosystem management, WPNSTA CHASN works with two ecosystem-wide conservation groups. The first is the Cooper River Wildlife Corridor Project, a coalition of 40+ corporations, landowners, government agencies and non-profit groups seeking to protect and enhance wildlife habitat on a river basin wide scale. The second is the CAWS Basin Task Force, an Atlantic coast joint venture of the North American Waterfowl Project. CAWS, is a broad-based coalition of individuals and organizations working to conserve natural resources and manage growth in Cooper, Ashley, Wando and Santee River Basins.

Land Use Management - NR personnel work closely with other Station personnel to avoid, minimize and mitigate negative environmental impacts. An aggressive program is in place to control erosion and sedimentation. Station personnel review site proposals and conduct site visits checking for silt fences, retention/detention ponds and buffer zones. When adverse impacts on jurisdictional wetlands cannot be avoided,

appropriate permits are obtained and mitigation is completed.

NCCC Tree Planters



Urban tree management efforts in 1996 met National Arbor Day Foundation criteria for Station designation as an official Tree City USA. Continued efforts have re-certified the Station in each of the past three years.

Significant cost savings have been achieved by revising ground's maintenance contracts. Reductions in cutting frequencies and areas mowed are saving nearly \$125,000 annually.

An ambitious project renovating six impoundments by rebuilding dams and installing new water control structures began in 1999. Coordinated by Natural Resources Conservation Service (NRCS), this project will enable more efficient pond management enhancing fisheries and wildlife habitat, reducing erosion and upgrading dam safety.

WPNSTA CHASN has an excellent working relationship with the NRCS. Good working relationships also exist with Berkeley County Agricultural Extension Service, Berkeley Soil and Water Conservation District and Clemson Agricultural Extension Service.

Forest Management - September 21, 1989 marked the start of a new era in the forestry program of WPNSTA CHASN. During one night, 9,500 acres of timber were devastated by Hurricane Hugo. The vast majority of the timberlands salvaged after the hurricane are now naturally regenerating loblolly pine stands. However, as part of ongoing grounds maintenance reduction, over 325 acres of

grass were site prepped for planting in longleaf and loblolly pine in FY 2000.

Although prescribed fire is being withheld in many areas because young pines are in vulnerable sapling stage, approximately 4,000 acres were prescribe burned in 1998-00.

Prescribed Fire



A number of unique forest areas are protected on Station. Around the NNPTC school wetland areas have been designated permanent buffer zones and will not be disturbed. Other protected areas include longleaf pine stands managed for red-

cockaded woodpeckers (RCW), bald eagle nesting areas, several cypress ponds, and a pitcher plant bog.

Cooperative efforts included: U.S. Forest Service (USFS) work on RCW, forest inventories, stand prescriptions, and gypsy

moth monitoring; S.C. Forestry Commission on prescribed burning; Westvaco on Arbor/Earth Days; and Longleaf Alliance on longleaf pine silviculture

Pitcher Plants



Barred Owl



Fish And Wildlife -

WPNSTA CHASN features a wide variety of wildlife species and habitats. The Station's coastal location results in a mix of salt, brackish, and freshwater wetlands while the low elevation and flat topography produces a mosaic of upland and wetland areas. Hardwood pockets

are scattered throughout the dominant pine forests. Wildlife populations occupying the area have adapted to the radically altered habitat resulting from Hurricane Hugo. Species such as wild turkey, fox squirrel and Bachman's sparrow adapted to mature, open woods have declined sharply. Species such as gray squirrel and white-tailed deer, heavily dependent on acorns in winter months, show varying degrees of decline. On the other hand, small mammals, bobwhite quail, common yellow throat, cotton-tail rabbit, gray fox and bobcat, all favoring early successional stages, have increased.

Fox Squirrel



Great Egret



Federal or state listed threatened or endangered (T&E) wildlife species occurring on WPNSTA CHASN are RCW, bald eagle, American alligator and West Indian manatee.

The RCW had a stable population on Station for many years. However, Hurricane Hugo destroyed most of the mature pine timber severely impacting the species. Before Hugo, 11 RCW clusters and 54 cavity trees were present. After Hugo, three cavity trees remained intact. In the months following the hurricane, 16 artificial cavities were installed by USFS personnel. In 1993 existing cavities

were renovated and new ones installed. A total of 22 artificial cavities are now in place along with four artificial start holes. The

birds have excavated four natural cavities and two start holes. Guided by USFWS biologists, the Station's RCW Management Plan was re-written by NR personnel and incorporated into the 1998 INRMP.

Installing Artificial RCW Cavity



Annual surveys and habitat management efforts are ongoing to maintain the residual population until the habitat is once again favorable for RCW population expansion.

Red-cockaded Woodpecker



Three nests and two active pairs of bald eagles are present on WPNSTA CHASN. Management practices and protections follow USFWS's *Management Guidelines For The Bald Eagle In The Southeast Region*.

The American alligator, "threatened by reason of similarity," is a common Station resident. So common, they often turn up in inappropriate places: carports, backyards, etc. To address this problem the Station has a Nuisance Alligator Handlers Team. These trained volunteers safely handle and transport an average of 20 nuisance alligators annually.



Each summer numerous manatee sightings are made along the S.C. coast including several in the Station's Cooper River waters. Warning signs to slow boaters down and make them aware of possible manatee presence, are posted at landings, piers and wharves.



Maintaining Wood Duck Nest Boxes

Wildlife habitat is managed in a variety of ways including controlled burning (1000+ acres annually), planting of wildlife food plots (80 to 100 acres annually), wood duck nest box program (95 boxes) and a non-game nest box program (six designs and 300 boxes).



FY 2000 wildlife food plots were increased by 25 acres utilizing former construction lay down sites and transmission power lines.

The largest wildlife habitat enhancement project on Station is part of the North American Waterfowl Project. This USFWS effort is a nation-wide effort dedicated to restoring declining migratory waterfowl through habitat enhancement. WPNSTA CHASN was selected as a DoD contributor due to its key location for wintering waterfowl. USFWS managers advised that significant benefits could be achieved by renovating an old rice field complex of eight interconnected ponds. Funded by the DoD's Agricultural Outlease Program, the project required the rebuilding of dikes and installation of water control structures. The resulting habitat provides tremendous benefits to a wide variety of wetland dependent wildlife, both game and non-game species.

Extensive hunting and fishing opportunities, for both Station personnel and the general public, exist on WPNSTA CHASN. Over 9,000 acres of land are available for hunting and fishing, of which 75% is open to the public. During the reporting period, over 3,500 outdoor enthusiasts purchased Station hunting/fishing licenses and enjoyed thousands of use-days of outdoor recreation.

In FY 2000, an unused 8'X10' walk in cooler was reconditioned and relocated to the Hunter Check Station for use by Station hunters.

Physical access to undeveloped areas was significantly improved in the past three years. Secondary and tertiary roads used for timber and wildlife management, outdoor recreation, and fire protection were extensively worked and repaired. Using \$50,000 from the DoD Forestry Reserve Account, culvert pipe and gravel were purchased and put out by NR personnel and volunteers. Using farm tractors, bush hogs, road scrapers and farm disks, NR personnel and volunteers maintain over 35 miles of forest roads, trails and utility rights-of-way providing the Station with considerable cost saving compared to contract labor.

An extensive revision of the hunting and fishing regulations was completed in 1998. Fees remained \$25 for combination hunting/fishing licenses, \$20 for hunting licenses and \$10 for fishing licenses. All Station hunters must pass a state-certified hunter safety education course.

WPNSTA Hunters





Fledgling Bald Eagles



SCDNR Eagle Biologist

Surveys identifying T&E species on Station have been completed for amphibians, reptiles and plants. In 1999, annual intensive surveys for neotropical migratory birds were started. In 2000, mammal surveys were initiated. When complete, these surveys will provide base-line data to monitor occurrence and population fluctuations of sensitive species.

Other Natural Resources - WPNSTA CHASN provides a large and varied outdoor recreation program. Military and civilian personnel and the general public are welcome. Resources available include: five major picnic areas, an archery range, a six-mile jogging/ skating/biking trail, a horse stable, five fishing piers, six boat ramps and a “primitive” camping area for Scouting groups.

In 2000, a “state of the art” handicapped accessible fishing pier was constructed on the Station’s Hooker Lake.



SCDNR Fisheries Biologist

In cooperation with SCDNR and USFWS biologists, NR personnel conduct annual nesting surveys for ospreys, colonial nesting wading birds, least terns, and bald eagles.

WPNSTA CHASN cooperates with SCDNR deer biologists to collect harvest data (antler measurements, sex, weight, and age) from Station deer. Using this data, the deer biologists recommend annual harvest quotas.



Hooker Lake Fishing Pier

WPNSTA CHASN does not allow off-road driving for recreational purposes. To facilitate enforcement, funding (\$50,000) for 25 new gates to block woods-roads and fire breaks was obligated in FY 2000.



**Marrington
Watchable Wildlife Area**

An important contributor to the Station's outdoor recreation is the Marrington Watchable Wildlife Area . It features two wildlife observation towers, five wetland boardwalks, a one mile, interpreted nature trail and two miles of associated trails. Four brochures facilitate area use. All brochures were revised and re-issued in 1998-00.



The Marrington Outdoor Recreation Area is open to all visitors. Consequently, no accurate figure exists for visitor use. Individual special events such as outdoor concerts, organized picnics, field days, etc., draw hundreds of people collectively adding up to many thousands over the three-year reporting period. Outdoor recreation is

enhanced by a tripartite agreement existing between WPNSTA CHASN, NPS and SCDPRT.

Pest Management – Integrated pest management is practiced with emphasis on non-pesticide alternatives. Heavy mulching with natural materials and mulch mats made of recycled automobile tires have significantly reduced weed control around urban trees. Aquatic pest plants are a serious problem in base freshwater impoundments. Mechanical control, biological control (sterile grass carp) and physical control (steep pond banks) are emphasized.

Mechanical Control



Biological Control: Sterile Grass Carp



WPNSTA CHASN is participating in the East Coast surveillance of Lyme's Disease and West African Nile Virus. Live ticks from white-tailed deer and any dead birds found are delivered to the Navy Preventive Medicine Program.

Conservation Education - NR regulations specific to the Station are set forth in WPNSTACHASNINST 5090.12D and the INRMP. Commissioned officers of WPNSTA CHASN and its tenant commands, military and civilian police officers, Station NR personnel and state and federal conservation officers are authorized as enforcement personnel.

Additional off-Station group interactions included: (1) Annual participation as mentor in Ground Hog Shadow Day, a youth career planning event; (2) Annually hosted field dog trials for Grand American Coon Hunt; (3) Co-sponsored and hosted a Ducks Unlimited "Greenwings" outing, a youth education/field day event;

"Kids Who Care"



DU Greenwings



**Hunter Educator
Of the Year**



During the 1998-00 period, 29 hunting and boating safety courses were conducted by Station personnel reaching 1,349 students.

Earth Day'98



(4) Annual participation in S.C. River Sweep Campaign, a litter clean-up/education event; and (5) Annual participation in the Berkeley County "Kids Who Care," program fostering environmental

ethics in elementary and middle school children.

River Sweep



Earth Day '00



For these efforts, the Station received in 1998 a "Special Recognition Award" from the SCDNR. In 1999, the Station NR Specialist was named S.C. Hunter Educator of the Year. All courses are free and open to the public.

WPNSTA CHASN personnel work extensively with off-Station groups including Boy and Girl Scout programs. During the 1998-00 period, personnel coordinated with Scouts on a variety of activities including a 1999 Earth Day wetlands education event.

The 1998 "Earth Day" celebration was held at the WPNSTA CHASN Child Care Center. Seventy children, together with parents, teachers and Station personnel, heard environmental messages, participated in a tree planting ceremony and received a tree seedling, donated by Westvaco, for take-home planting.

Community Relations - During the 1998-00 period, the NR program upgraded public relations efforts. Eighty-eight articles were published in military and civilian media highlighting program activities.

As previously described in Ecosystem Management, the Station is participating in two local resource conservation groups: the Cooper River Wildlife Corridor Project and the CAWS Basin Task Force.

NR personnel are involved with professional organizations including National Military Fish and Wildlife Association, Quality Deer Management Association, The Wildlife Society and Society of American Foresters. Affiliations with conservation organizations include: National Wildlife Federation, National Audubon Society, Charleston Natural History Society, S.C. Coastal Conservation League, Lowcountry Open Land Trust, S.C. Urban and Community Forestry Council, the Longleaf Pine Alliance and the National Arbor Day Foundation.

In addition to those already mentioned, frequent contact occurs between Station staff and personnel of NR organizations including: National Marine Fisheries; U.S. Army Corps of Engineers; S.C. Department of Health and Environmental Control; S.C. Office Coastal Resource Management; S.C. Forestry Commission; The Audubon Society; Cypress Gardens and Charleston Raptor Center.



**NR Volunteer Planting
Wildlife Food Plot**

WPNSTA CHASN has an outstanding NR Volunteer Program. In 1998 the CNO selected it Community Service Program of the Year/Environmental Stewardship

Category. The core group consists of 55 individuals with 35 other volunteers participating in special events. Program volunteers logged over 16,000 hours in the past three years.

Environmental And Mission Enhancement

The NR program contributes significantly to the quality of life on Station and surrounding communities. The large resource base supplies outdoor recreational opportunities to a large number of people; the Station is a haven for endangered species; it increases people's awareness of NR values and it will preserve and protect NR within its boundaries for generations to come.

The program enhances the installation's ability to carry out its mission by ensuring Station activities/actions are within both the letter and spirit of state and federal natural resources laws. This oversight prevents costly delays, speeds project completion, fosters good public relations, and ensures good working relationships with regulatory agencies.

Natural Resources Compliance Program -

WPNSTA CHASN personnel interact with regulators primarily when Station projects call for Section 404 permits or have potential impacts on T&E species. Good working relationships exist with staff from the USFWS, U.S. Army Corps of Engineers, National Marine Fisheries Service, SCDNR, SCDHEC and SCOCRM.

Three primary funding sources maintain the program: (1) Station budget; (2) Navy Agricultural Outlease Program; and (3) Navy Forestry Reserve Program. The Station funds annually from \$150,000 to \$250,000. This includes funding for salaries, equipment, travel, training, and various major and minor projects. During the 1999-00 period, the Navy Agricultural Outlease Program provided \$68,400 for seven projects while the Navy Forestry Reserve Fund provided \$339,660 for six projects.